Claims 45-58, 84, 105 and 122-141 were rejected under §103 (a) as being unpatentable over Azure (US 5,908,444) in view of Findl (US 4,850,959) and Baugh (US 5,935,516). This rejection is respectfully traversed. Applicants appreciate the detailed reasoning set forth by the Examiner in the Action.

Azure does not disclose or suggest the claimed augmenting at least one function of a biologic structure by "targeting the biologic structure by inducing acoustic resonance" (see Claims 45-58, 84 and 105); or augmenting the growth of an aquatic species by "applying at least one first resonant frequency", etc.(see claims 122-141).

Applicants refer to Figures 1 and 2 of Azure. A human "patient" 48 is positioned in proximity to a Tesla coil 26 which is connected to a light emitting system 6 containing a plurality of tubes 32. Azure discloses that various gases such as hydrogen, helium, argon, neon, xenon, Krypton, etc., may be contained within the tubes (see, Col. 4, lines 10-11).

Azure further discloses that his invention "**...advantageously provides a wide spectrum of harmonics up to approximately 2 GHz.**" (see, Col. 3, lines 9-10; emphasis added).

Azure further discloses at Col. 4, lines 61-62 that his Tesla coil: **"...produces electromagnetic emissions over a broad range of harmonic frequencies"** (emphasis added).

Column 5, lines 6-9 of Azure disclose: **"The electromagnetic emissions from the tubes 32 include harmonic frequencies in the visible portion of the electromagnetic spectrum, and each gas produces light having a different color"** (emphasis added).

Azure further discloses at Column 5 lines 16-21, that: **"...the transformer 4** (containing the Tesla coil 26, sic.) **and the light emitting system 6 generate electromagnetic emissions at harmonic frequencies between 500 kHz and 3 GHz .....A patient situated proximate to the unit may benefit from the broad range of harmonic frequencies generated by the BELS unit 8"** (emphasis added).

Applicants' last quote taken from Azure occurs at Column 7, lines 5-8: **"Therefore, the patient 48 benefits from the general exposure to the broad band PEMF generated by the Tesla coil 26, the wavelengths emitted by the light emitting system 6, and the broadband PEMF focused by the coil 64"** (emphasis added).

The teachings of Azure are similar to the teachings of many of the references previously made of record by Applicants. Specifically, Azure discloses another technique and apparatus for

the medical treatment of patients similar in approach to many other known devices/techniques already of record. Many claims relating to surprise healing exist in the art relating to such devices. However, a significant shortcoming of all of the cited references, including most certainly the Patent to Azure, is the lack of disclosure in each reference regarding the claimed **targeting of a biologic structure by inducing acoustic resonance** (see e.g., claim 45) or the claimed augmenting the growth of an aquatic species by applying **at least one first resonant frequency**, as claimed (see e.g., claims 122 and 132).

Azure discusses the frequency dependent reaction of cells to only electromagnetic fields and nowhere considers the reaction of cells to resonant acoustic fields. Azure further teaches away from any targeting at all, electromagnetic, acoustic, or otherwise. For example, at Col. 1, lines 57-58, Azure apparently concedes that "…. **the frequencies required by specific cells is not readily determined"** and thus there is a need to use **"...complex frequency PEMF's."**

The claimed targeting to achieve acoustic resonance is very important. Applicants' specification throughout refers to the importance of the claimed "targeting" to achieve resonance. For example, Applicants direct the attention of the Examiner to page 5, lines 7-16, of the present specification which discusses certain principles relating to resonance and the importance of resonance. The claimed targeting permits acoustic resonance to be achieved in **targeted biologic structures.** This permits desirable interactions to occur with the targeted biologic structures, without, for example, the need for high power levels (e.g., resonance permits small amounts of energy to be built up rapidly in a system), or the potential negative consequences of energy being applied and/or used in a shotgun or blindfolded approach (e.g., resonance can be very directed or targeted to specific structures). Thus, without using the claimed techniques to achieve acoustic resonance, the prior art is reduced to a batch of hit or miss techniques, some of which prior art techniques can have undesirable consequences.

The following passages in the present specification discuss the inducing of acoustic resonance: Specifically, Page 8, lines 8-10 recite the following:

> "The resonant acoustic frequency of a biologic structure may be determined by performing resonant acoustic spectroscopy using methods and systems well known in the art.

Moreover, the present invention teaches at Page 11, lines 16-19 the following:

> "The targeted structure can be induced into acoustic resonance by introducing acoustic energy including at least one resonant acoustic frequency, electro-magnetic energy equivalent to the resonant acoustic frequency, and/or electromagnetic energy pattern equivalent to the acousto-EM signature."

Further, the present Specification teaches at Page 13, lines 10-18 the following:

> "In another embodiment of the present invention a system for augmenting and/or disrupting a targeted biologic structure comprises means for applying acoustic energy including a previously determined resonant acoustic frequency to induce acoustic resonance in the biologic structure, the acoustic energy being applied at a sufficient power input to affect functions of the biologic structure. Alternatively, the targeted structure may be induced into acoustic resonance by providing electromagnetic energy equivalent to the resonant acoustic frequency or the acousto-EM signature that was previously determined, such as direct and alternating current, electric and magnetic fields, and electromagnetic energy."

Applicants respectfully submit that broadband PEMF approach taught by Azure is commonplace prior art and does not recognize the importance of the claimed **"targeting the biologic structure by inducing acoustic resonance"** (see claims 45-58, 84 and 105) or the claimed application of "at least one first resonant frequency" (see claims 122-131) or the claimed "first acoustic resonance frequency" (see claims 132-141).

Moreover, Findl does not remedy the deficiencies in the disclosure of Azure. Findl discloses at column 3, lines 2-11, his definition of a resonant frequency. In particular, Findl discloses the following at column 3, lines 2-6:

> By "resonant frequency electromagnetic fields", as used in the specification and appended claims, is meant any waveform, having a fundamental or modulation frequency of 15 Hz, or an odd multiple thereof, up to about the 19th harmonic, i.e., about 285 Hz.

Findl apparently observed that these frequencies (i.e., 15 Hz, etc.) somehow assist in, for example, calcium ion cellular transport. However, there is no disclosure or suggestion in Findl of the claimed "**targeting the biologic structure by inducing acoustic resonance**" (see claims

45-58, 84 and 105) or the claimed application of **"at least one first resonant frequency"** (see claims 122-131) or the claimed **"first acoustic resonance frequency"** (see claims 132-141).

Further, the disclosure of Baugh does not provide any insight which would overcome the deficiencies of Azure and/ Findl. Specifically, there is no disclosure or suggestion of the claimed importance of targeting the biologic structure by inducing acoustic resonance.

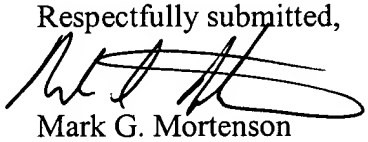
Claims 55-57, 125 and 140 were rejected under Section 112, second paragraph. Applicants respectfully traverse the rejection of claims 55-57. In particular, all of the biologic structures recited in claims 55-57 perform various functions, all of which are well known in the art. Claim 45, from which claims 55-57 depend, recites augmenting at least one function of a biologic structure. Applicants believe that these claims are definite within the meanings of section 112, second paragraph.

Applicants appreciate the Examiner pointing out the grammatical problems in claims 125 and 140. Claim 125 shall be amended by changing "contacting" to –measuring--; and claim 140 shall be amended by changing "generation" to –germination---. Applicants can provide a clean copy of all the pending claims or the Examiner is authorized to make these changes to the pending claims, whichever is easier for the Examiner.

Accordingly, in view of the aforementioned amendments and Remarks contained herein, a Notice of Allowance directed to Claims 45-58, 84, 105 and 122-141 is respectfully requested.

Should the Examiner believe that the pending claims are not in condition for allowance, the Examiner is respectfully requested to telephone Applicants' undersigned representative so that a personal interview can be arranged at the convenience of the Examiner.

Respectfully submitted,



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